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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,038	05/03/2001	Hendrik Arien Dirkse	TS0764 US	8298

7590 01/30/2004  
Richard F Lemuth  
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EXAMINER

ELVE, MARIA ALEXANDRA

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/831,038

Applicant(s)

DIRKSE ET AL.

Examiner

M. Alexandra Elve

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5/3/01. 6) ☐ Other: .

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## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baillie (US Pat. 4,670,410).

Baillie discloses an apparatus for separating solid particles from vapor. The apparatus is used in combination with a hydrocarbon cracking or reforming plant setup, which separates solid particles from a (fluid) mixture of vapors and solids when restoring the catalytic activity of chemical particles. The fluid mixture enters the cyclone and a reflecting and centering device forms a vortex that minimizes or negates the re-entrapment of particles and hence maximized separation yields. The majority of the solid particles have a diameter in the range of 10 to 500 microns. At least one of the separation devices has a cylindrical shape and an inlet to introduce the fluid mixture into the reaction zone and chamber. Inlets and outlets are shown in figures 1-2 & 4. Two separation devices are used and are shown in figure 1. The fluid mixture flows through piping or risers and through a diffusion plate (41) that is a plate with holes in it. Additionally, a plate with holes (121) in it is used for vapor particle separation. (abstract,

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figures 1-8, col. 3, lines 19-36, 45-51, 62-68, col. 4, lines 1-17, col. 5, lines 54-57, col. 6, lines 1-5, col. 7, lines 12-27, col. 11, lines 55-57, col. 12, lines 1-46, col. 13, lines 22-32, col. 20, lines 54-68, col. 21, lines 1-13, 51-55, col. 22, lines 49-60)

Baillie does not specifically teach the use of a sieve, however, the use of a diffusion plate for particle separation is disclosed. It is well known in the art that these are functional equivalents. The substitution of a known equivalent structure has been held to be obvious. In re Ruff 118 USPQ 343 (CCPA 1958).

Baillie does not teach the exact same range with respect to sieve (diffusion plate) sizing as instant claims. It would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claimed range (in this case catalytic particle sizes) are disclosed in the prior art, discovering the optimum value in a known separation system involves only routine skill in the art. See In re Boesch 205 USPQ 215.

Although the prior art, Baillie, teaches all the same apparatus parts of instant claims, the assembly is not exactly the same. Rearrangement of parts was held to have been obvious. In re Japikse 86 USPQ 70. Reversal of parts was held to have been obvious. In re Gazda 104 USPQ 400.

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**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See U PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 6:30-3:00 Monday to Friday.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

January 24, 2004.

  
M. ALEXANDRA ELVE  
PRIMARY EXAMINER